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November 19, 2022 Aercoustics Project #: 05259.00

St Marys Cement Inc. (Canada)
CBM Aggregates - Codrington
55 Industrial Street
Toronto, Ontario, Canada
M4G 3W9

ATTN: Hudson Selles, Manager, Lands & Environment, CBM
Mike Le Breton, Lands Manager, Eastern Region, CBM

Subject: CBM Aggregates Codrington Pit Acoustical Audit
MNRF Licence # 624984
Part of Lots 32-34, Concession 6, Geographic Township of Brighton, County of Northumberland

1 Introduction

Aercoustics Engineering Limited (Aercoustics) was retained to conduct an acoustic audit of the Codrington Pit to fulfil the monitoring condition set by the Ministry of Natural Resources & Forestry (MNRF) and by the "Environmental Noise Monitoring Program & Complaint Procedure – Codrington Pit", dated February 24, 2013. The Noise Study for the pit is titled "An assessment of the Potential Noise Associated with Aggregate Extraction & Processing at the Proposed Codrington Pit" (May 14, 2009), prepared by Aercoustics. There is also an accompanying Addendum Letter dated April 5, 2012. The Codrington Pit is located about 1 km east of the intersection of Highway 30 and Old Wooler Road, about 1.5 km southeast of Codrington, Ontario. The pit is bounded by an Ontario Hydro line to the north.

The audit has been conducted in accordance with the guidelines and procedures of the Ontario Ministry of the Environment, Conservation and Parks (MECP).

2 Site Visit Conditions

During the site visit on October 25, 2022, the main northern processing plant and mobile crushing plant were in operation. The audit measurements captured the operation of the main processing plant and mobile crushing plant located towards the south of the pit. The main wash plant located near the entrance of the site was operating. A Volvo A40G rock truck was observed dumping extracted material into piles near the mobile crushing plant,

while a CAT 980K was observed loading the plant. A CAT 980K loader was also observed organizing piles and loading highway trucks at points near both plants.

It is a condition of the licence that the sound levels from the pit comply with the MECP guidelines for noise from stationary sources. The current MECP criteria for noise from a stationary source are set forth in publication NPC 300, ”Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning”.

The allowable noise levels from the extraction, processing and shipping operations in the pit as established by the MECP and the Noise Study are outlined in Table 1. The equivalent sound level (L_{EQ}) is an average sound level based on acoustical energy. It is a steady sound level that for the specified time period contains the same acoustical energy as the varying sound level which prevails.

Table 1: Applicable MECP Sound Level Limits (Daytime)

Receptor	Sound Level Limit One Hour L_{EQ} (dBA)
R1 to R13	45
R14	50
R15	52

The allowable sound level limits for the pit operations at the residences at R1 to R13 correspond to the Class 3 daytime equivalent sound level exclusion limit of 45 dBA. Receptors R14 and R15, which are closer to Highway 30, are considered Class 2 receptors. Based on traffic noise impact predictions, the sound level limit for Receptor R15 is defined by the minimum background sound level of 52 dBA.

As per the Addendum Letter, the extraction and processing operations in the pit are restricted to weekday daytime hours (07:00 to 19:00). The noise from a stationary source should not in any hour exceed the limits outlined in Table 1. It should be noted that noise from Highway 30 has been observed to be consistently audible at Receptors R1 and R2 due to the elevated topography at these locations. These receptors’ sound level limits may be increased to a Class 2 designation in future audits to reflect the road traffic noise.

The surrounding receptors and measurement locations are illustrated in Figure 1.

The average air temperature was 20 degrees Celsius and the prevailing winds were from the southeast at about 10 km/h.

3 Equipment

Measurements were taken with a Brüel & Kjær 2250 Sound Level Meter equipped with windscreen. The equipment was calibrated before and after the measurements.

4 Measurements

During the site visit, sound level measurements were conducted where appropriate at locations representative of the residences surrounding the pit. Sound level measurements were conducted at the R1 receptor to the south-west of the site and the R13 receptor to the north of the site, in addition to R10 to the east.

It should be noted that during the measurements, the sound level meter was paused as required to minimize the contribution from airplane flyovers and truck passes. Table 2 tabulates the noise measurements and observations at the receptors.

Table 2: Measured Sound Levels

Receptor	Measured Sound Level (dBA) L_{EQ}	Noise Sources
R1	42	Pit activities audible; insect, bird, and tree noise present; ambient dominant.
R10	41	Pit activities slightly audible; insect, bird, and tree noise present; ambient dominant.
R13	38	Pit activities audible during lulls in ambient; highway truck travel through pit audible; distant traffic, insect, bird, and tree noise dominant and persistent.

Measurements of the processing plants were conducted to confirm the assumed reference sound levels used in the noise study. The sound pressure level of both plants was assumed to be 87 dBA at 30 m, while the actual overall plants sound level was measured at the time of the audit to be at 82 dBA at 30 m. See the attached Figure 1 for an illustration of the measurement locations and the receptor locations.

5 Observations and Conclusions

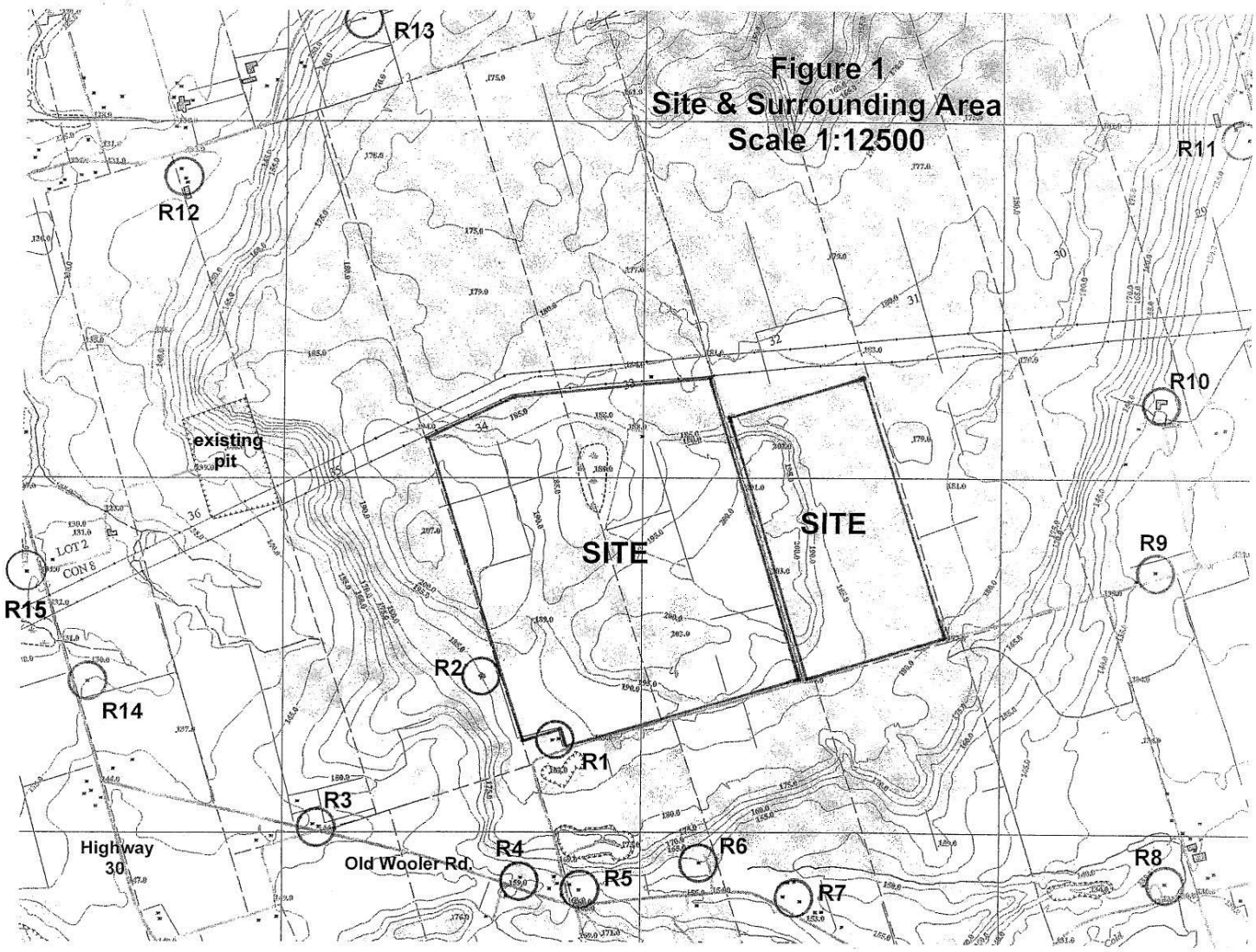
The measured sound levels include the contribution from the background noise sources with distant road and air traffic minimized. The Codrington Pit operations were generally audible during periods with low background noise. The measurement results indicated that the sound level from the Codrington Pit operations at all applicable receptors was below the allowable limits. It can be concluded from the acoustical audit that, based on the measurements, the Codrington Pit is operating in compliance with the MECP guidelines for stationary sources.

Sincerely,

AERCOUSTICS ENGINEERING LIMITED

Artemio Delos Trinos

Derek Flake, M.Sc., P.Eng.



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The scope of the work outlined in this document is limited to the acoustic, noise and/or vibration control aspects of the design. Contractor to verify all dimensions

Scale: N.T.S.
Drawn: ADT
Eng: DF
Date: 2022.11.10

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Project Name:

Codrington Pit 2022 Acoustical Audit

AEL File: 05259

Drawing Title:
Key Plan Showing Site Location and Receptors

Figure 1